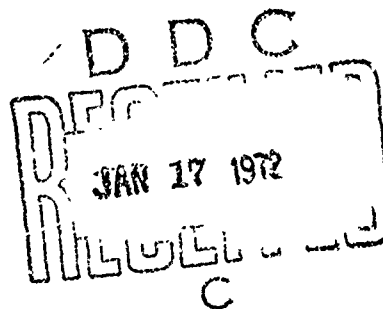


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THE CONCURRENT VALIDITY OF UNOBTUSIVE MEASURES OF CONFLICT IN SMALL ISOLATED GROUPS

GEORGE SEYMOUR

REPORT NUMBER: 71-16



NAVY MEDICAL

NEUROPSYCHIATRIC RESEARCH UNIT

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WASHINGTON, D. C. 20390

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UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D		
Security Classification of title, body of abstract and indexing annotation must be entered when the overall report is classified		
1. ORIGINATING ACTIVITY (Corporate author) Navy Medical Neuropsychiatric Research Unit San Diego, California 92152		2a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED 2b. GROUP
3. REPORT TITLE The Concurrent Validity of Unobtrusive Measures of Conflict in Small Isolated Groups		
4. DESCRIPTIVE NOTES (Type of report and inclusive dates)		
5. AUTHOR(S) (First name, middle initial, last name) George E. Seymour		
6. REPORT DATE December 1970	7a. TOTAL NO. OF PAGES 5	7b. NO. OF REFS 6
8a. CONTRACT OR GRANT NO. b. PROJECT NO MF12.524.001-9003D c. d.	9a. ORIGINATOR'S REPORT NUMBER(S) 71-16 9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	
10. DISTRIBUTION STATEMENT This document has been approved for public release and sale; its distribution is unlimited.		
11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY Bureau of Medicine and Surgery Department of the Navy Washington, D.C. 20390	
13. ABSTRACT Six unobtrusive measures of group behavior (type of response to a conflict criterion item) and response or not to a sociometric questionnaire were correlated with 3 criteria reflecting a concurrent validation procedure. Results supported the general hypothesis that the unobtrusive measures used were indicative of conflict in small isolated groups. An unexpected finding indicated that response to stress or conflict may be characterized by apparently opposite types of behavior within groups either withholding information or making strong negative statements about another.		

DD FORM 1473

(PAGE 1)

UNCLASSIFIED

Security Classification

UNCLASSIFIED

Security Classification

14 KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Conflict Isolation Unobtrusive Behavior under stress Small groups						

THE CONCURRENT VALIDITY OF UNOBTUSIVE MEASURES OF CONFLICT IN SMALL ISOLATED GROUPS*

GEORGE E. SEYMOUR

*Navy Medical Neuropsychiatric Research Unit
San Diego, California 92152*

PROBLEM

Conflict is an everpresent aspect of interpersonal relationships and, with few exceptions⁽¹⁾, is construed as having negative connotations. For this reason, the manifestations of conflict often are disguised and generally subtle and difficult to measure. The measurement of interpersonal conflict has unique importance because of (a) the need to clarify the meaning of this concept, (b) possible relationships to other group processes and outcomes, and (c) implications for group viability under conditions of prolonged isolation and confinement, such as interplanetary space flight.

Because the expression of conflict is so varied—ranging from a disapproving glance or a subtly disparaging remark to strong verbal disapproval, noncooperation, threats, or even physical violence—certain expressions of conflict may go unnoticed within any group. There is need for study of a variety of indices of group conflict, and preferably these indices should be unobtrusive and capable of measuring the less extreme aspects of interpersonal dissatisfaction. A major objective of this paper is to evaluate the relevance of certain unobtrusive measures of group behavior for assessment of group conflict.

METHOD

This study is concerned with groups of volunteers who had spent approximately 8 months in isolation in the Antarctic. This situation represents a compromise between the highly controlled laboratory experiment and the largely uncontrolled field study in that many of the environmental conditions were known and relatively stable, yet groups were formed naturally and faced real activities and stresses. Furthermore, this setting was especially well suited to the longitudinal study of interpersonal relationships, because for approximately 8 months the groups were completely isolated from the outside world except for intermittent radio contact. There was no possibility of leaving the group situation.

Six small Antarctic stations were involved in the present study; the stations were operated jointly by the National Science Foundation and the U. S. Navy during the years 1964-69. The mission of these 23 "wintering-over" parties was to gather scientific data in a variety of disciplines, principally meteorology and upper-atmospheric physics. Scientists and civilian technicians represented about 40% of the sample, and the military specialists, including construction and maintenance technicians, medical personnel, and cooks, supported the scientific programs. The mean and standard deviation of age for all station members were 26 years and 6 years, respectively.

Principal station characteristics were (a) group size ranged from 8 to 30 men, (b) except for 1 year four stations were occupied each year, (c) groups were composed of a wide variety of occupational specialties, and (d) activities were restricted greatly during the Antarctic winter because of darkness and severe climatic conditions. Prior to the deployment to the Antarctic, all applicants participated in a psychiatric assessment program that provided biological data, clinical evaluations, and a number of personality measures. More specific information about general station characteristics and the screening program may be found elsewhere^(2, 3).

*Report Number 71-16, supported by the Bureau of Medicine and Surgery, Department of the Navy, under Research Work Unit MF12.524.001-9003D. Opinions expressed are those of the author and are not to be construed as necessarily reflecting the official view or endorsement of the Department of the Navy.

On two occasions during the winter isolation (March and September), questionnaires were administered to all group members by the station leader. The station members were informed that all information was confidential and for research only. Completed forms were individually sealed and mailed. Among the measures administered at the end of winter isolation (September) was a peer nomination form (PN-form) that contained 10 items which pertained to various personnel characteristics. Individuals were asked to list a few other station members who were friendly, proficient in their jobs, hard working, etc. This type assessment has been considered appropriate under conditions essentially similar to the present study⁽²⁾. All items except one elicited nominations for positive characteristics; the exception was purposely ambiguous and could be answered positively or negatively. It stated: "Sometimes our first impressions about people turn out to be wrong. Perhaps you had some early impressions about one or more of the men at this station that turned out to be wrong. If so, could you indicate who these persons were and how your impressions were wrong." Thus, there was only one opportunity for station members to express formally their negative personal feelings toward others. Three types of response to this nonstructured item (NS-item) were possible: no information, an early negative impression that changed to positive, and an early positive impression that changed to negative. This item provided 5 of the 11 variables (numbers 3 through 7) used in this study, which are shown in Table 1.

Station size (variable 1) was the number of combined military and civilians at each station. Variable 2 (PN-form) reflects the station percentage of no response to the form. It was hypothesized that failure to respond to the PN-form would be indicative of interpersonal conflict that reflected personal dissatisfaction. Variable 3 (NS-item) was a percentage measure of the lack of response to the NS-item. This variable also was hypothesized as a measure of conflict. Because objective measures were available regardless of the response (even rejection of the form or item), variables 2 and 3 both may be considered unobtrusive and probably non-reactive measures.

The next two variables (4 and 5) were measures of overt negative responses to the NS-item. It was hypothesized that the more negative choosers (individuals who choose another negatively) and the more negative chosen (individuals who were chosen negatively), the greater the conflict. In other words, these two variables were expected to reflect proportionally the amount of conflict at each station.

TABLE 1. VARIABLE NUMBERS, NAMES, AND RANK DISTRIBUTIONS

Variable Number	Variable Name	Station Means*	Rank of 1 Indicates Station with
1	Station size	18.2	Largest number of men
2	PN form	16.5	Largest % not filling out PN form
3	NS item	39.6	Largest % of no information on NS item
4	Negative choosers	35.7	Largest % of negative choosers on NS item
5	Negative chosen	28.6	Largest % of negative chosen on NS item
6	Positive choosers	14.3	Largest % of positive choosers on NS item
7	Positive chosen	14.0	Largest % of positive chosen on NS item
8	Hostility	4.3	Highest mean hostility score
9	Compatibility	16.2	Highest mean compatibility score
10	Internal Disagreement	4.2	Highest mean score on "Internal Disagreement" item
11	Area ² /man	348.3	Largest square area per man

*All values are mean percentages except variables 1 and 8 through 11, which are actual means.

Conversely, variables 6 and 7 were measures of the number of positive choosers and positive chosen, respectively. Because these last four measures were derived indirectly, they also may be considered unobtrusive.

Variables 8 and 9 were station mean scores of scales derived from self-report attitude items also administered at the time of the PN-form. These scales, Hostility and Compatibility, have been explained in more detail elsewhere^(3, 4). Variable 10 was the station mean score on the item: "Members of this station disagree a lot with one another." This variable was expected to correlate highly with variable 9 because it was one of the five items comprising variable 9's scale. It was included because it was expected to be the most direct measure of interpersonal dissatisfaction available. Variable 11 (the mean area per man per station) was concerned only with work and commonly habitable space as derived from scaled maps. In other words, power supply buildings, etc., were omitted. Variables 8, 9, and 10 then were concurrent criterion measures that reflected group consensus of the degree of intragroup conflict present.

Of the 23 "winter-parties" involved in Antarctic research during the time period of this study, three small stations had incomplete data for most of the variables and were not included in this study. For all station members the responses to the NS-item were recorded, and the type of response (positive or negative) was noted. Negative statements consisted of derogatory remarks, such as "two-faced and devious" or "extremely uncouth, lazy, egocentric individual." Also, because other information indicated that distinct military-civilian factions often developed, the numbers of responses given by each of these groups, both to its own group and to the other group, were noted. Station logs, which generally were available, were not used as a data source because leaders often neglected to mention names when commenting on individual disputes or intragroup conflicts.

The basic data for the unobtrusive variables (2 through 7) were station percentages to control for variations in station size. All 11 variables were then ranked for all 20 stations. Spearman *rhos* were computed among all variables. Finally, *t*-tests also were developed for all relationships.

RESULTS

Actual responses to the NS-item included all three possibilities previously mentioned, but positive impressions that changed to strongly negative responses predominated. The negative responses ranged from mild characterizations, such as "completely tactless" to a "ruthless, ambitious, domineering, oppressive, derogatory, tactless, narcissistic, egomaniacal fraud." Those who received negative comments on the NS-item also generally received positive comments from others, either on the NS-item or on another item.

Of the 364 total station members in the study, 60 (16%) did not fill out the PN-form. The range of percent noncompletions across stations was from 0 to 50%. An additional 144 (40%) Ss decided not to nominate another on the NS-item, and the stations ranged from 8.6 to 63.1% on this variable. Further, for about 25% of these nonresponders, the NS-item was the only item left blank. Thus, 160 members made some overt choices on the NS-item. There were 178 negative choices made, which consisted of 130 choosers and 104 chosen individuals. The proportions of military and civilians who made negative choices were similar to station subgroup composition. In addition, there was a tendency for subgroups, after controlling for chooser-chosen proportions, to restrict choices to their own subgroup. There were also 60 positive choices made by 52 choosers who chose 51 station members.

Table 2 shows the significant relationships among the 11 variables. Table entry was dependent upon being significant ($p < .05$). Of the 55 possible relationships, there were 15 significant relationships, 6 of which exceeded the probability of .01.

TABLE 2. COMPARISON OF SIGNIFICANT RELATIONSHIPS BETWEEN GROUP INDICES OF CONFLICT AS SHOWN IN TABLE 1

Variable Numbers	Spearman Rho	<i>t</i>	<i>p</i>
1-6	.50	2.44	<.05
1-7	.48	2.30	<.05
1-9	.58	2.78	<.05
1-10	-.45	-2.16	<.05
1-11	.67	3.84	<.01
2-3	-.63	-3.46	<.01
3-4	-.49	-2.38	<.05
3-9	.47	2.28	<.05
4-8	.48	2.35	<.05
4-9	-.68	-3.90	<.01
4-10	.68	3.95	<.01
5-9	-.50	-2.46	<.05
6-7	.89	8.46	<.01
8-9	-.48	-2.31	<.05
9-10	-.75	-4.86	<.01

Station size (variable 1) was related to several variables. Specifically, the larger the station (*i.e.*, the more men), the greater the number of positive choosers and chosen on the NS-item, the more compatible the station, and the less the perception of internal disagreement. Variable 2 and variable 3 were strongly negatively correlated, an unexpected finding because both variables were hypothesized to correlate positively with conflict indices and thus with each other.

Seven other variables (3, 4, 6, 7, 8, 9, and 10) generally had high intercorrelations. The first four variables were unobtrusive measures that correlated significantly with the three criterion variables. Specifically, those stations that had a small percentage of individuals who did not respond to the NS-item also had a large percentage of negative choosers, fewer positive choosers and chosen, more hostility, less compatibility and a greater perception of internal disagreement. The intercorrelations for these variables may be seen in Table 3. The one other significant relationship between variables 5 and 9 indicated that the more negative chosen individuals at a station, the less compatible that station.

TABLE 3. INTERCORRELATIONS OF VARIOUS MEASURES OF GROUP CONFLICT

Variable Name	Variable Number	3	6	7	9	4	8
NS item	3						
Positive choosers	6	.22					
Positive chosen	7	.19	.89				
Compatibility	9	.47	.40	.43			
Negative choosers	4	-.49	-.39	-.42	-.68		
Hostility	8	-.14	-.14	-.25	-.48	.48	
Internal disagreement	10	-.35	-.44	-.38	-.75	.68	.30

DISCUSSION

In general, the hypotheses as presented were supported. Station size, not surprisingly, was an important variable. Small groups under stress were most apt to develop intragroup conflict. On the other hand, the tendency for subgroup members to express hostility toward their own group contradicts previous findings that hostility tends to be directed toward out-group members. The other unexpected finding concerned the relationship between variables 2 and 3. The significant negative relationship between these variables indicates that those stations which responded most to the peer form also tended to respond proportionally less to the NS-item. A clue to understanding this relationship may be gained from the significantly negative relationship between variables 3 and 4 (high rejection of the item was associated with fewer negative choices). It now seems plausible that rejection of the NS-item was not an index of strong group conflict—rather it may be a measure of subdued conflict within groups. Once the conflict becomes too great, rejection of the NS-item may be superseded as a conflict expression for some individuals by negative choices, whereas others may reject the entire form.

Support for these assertions also is found among the relationships in Table 3. Those stations that responded most to the NS-item had the greater number of negative choosers and both fewer positive choosers and chosen individuals. These same stations also had significantly more intragroup hostility, least compatibility, and more awareness of internal disagreement. These findings provide strong evidence for the relevance of these unobtrusive measures as indices of conflict in small groups.

SUMMARY

Six unobtrusive measures of group behavior (type of response to a conflict criterion item) and response or lack thereof to a sociometric questionnaire were correlated with three criteria that reflected a concurrent validation procedure. Results supported the general hypothesis that the unobtrusive measures used were indicative of conflict in small isolated groups. An unexpected finding indicated that response to stress or conflict may be characterized by apparently opposite types of behavior within groups—either withholding information or making strong negative statements about another.

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